

## Ultra High Brightness/Low Cost Fiber Coupled Packaging, Phase I

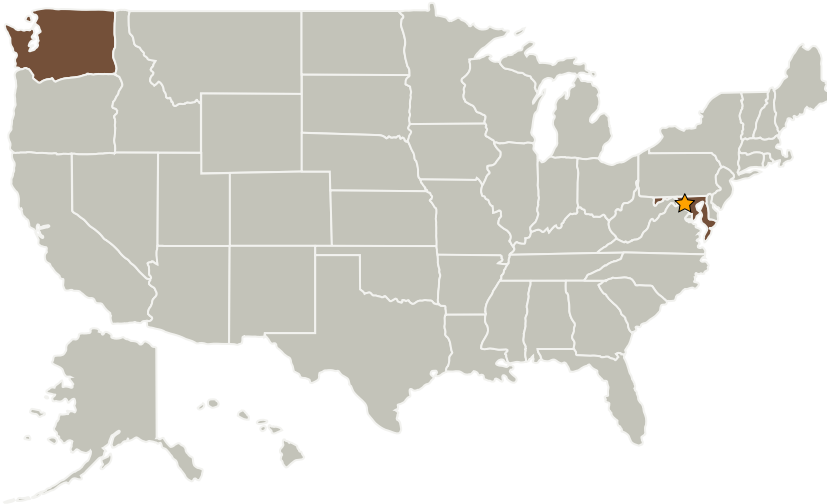
Completed Technology Project (2006 - 2006)



## Project Introduction

The focus of the proposed effort is maximizing the brightness of fiber coupled laser diode pump sources at a minimum cost. The specific innovation proposed is to challenge the industry standard design of laser bars used in fiber coupled pump packages and to demonstrate that an alternative designs can offer higher brightness and lower cost than the current state of the art. We intend to show that the specific bar and packages designs can have a dramatic effect on both brightness and cost. We propose to demonstrate the capability for a 10X improvement in pump brightness and a 3X reduction in laser diode cost through this investigation. This innovation will allow for the design and fabrication of ultra high brightness, low cost fiber coupled laser pump packages operating at any wavelength over the span of 635nm to 2000nm. This innovation is relevant for any laser system which uses fiber coupled pump sources, specifically .Novel, high-power laser diodes capable suitable for pumping Holmium-based solid-state lasers. as described in Subtopic S6.02 Lidar Remote Sensing

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
nLight Photonics Corporation	Supporting Organization	Industry	Vancouver, Washington



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## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Center / Facility:**

Goddard Space Flight Center (GSFC)

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

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## Primary U.S. Work Locations

Maryland

Washington

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

Carlos Torrez

## Technology Areas

### Primary:

- TX08 Sensors and Instruments
  - └ TX08.1 Remote Sensing Instruments/Sensors
  - └ TX08.1.5 Lasers